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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/997,947	11/30/2001	Kent S. Tarbutton	56847US002	5046

7590 08/14/2003

Attention: Harold C. Knecht III
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EXAMINER

NGUYEN, TRINH T

ART UNIT

PAPER NUMBER

3644

DATE MAILED: 08/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/997,947

Applicant(s)

TARBUTTON ET AL.

Examiner

Trinh T Nguyen

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-- **Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --**
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 17-28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 November 2001 is/are: a) ☒ accepted ^{and approved} or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of claims 1-16 in Paper No. 4 is acknowledged.
2. Claims 17-28 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 1-11, 15, and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1: the phrase "the resulting tube section" lacks proper antecedent basis.

In claim 15: the phrases "the resulting birdcage structure" and "the annular spaces" lack proper antecedent basis.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. Claims 1-3, 5-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP0707695B1 (hereinafter is referred to as EP'695) in view of Ni et al. (US 5,720,092).

EP'695 discloses a method of forming a tube section comprised of a male tube section (9) having end portion received within and overlapping end portion of a female tube (8) section by inserting glue/adhesive within an annular space (10) defined between the male and female tube sections (see Figure 2, lines 17-22 of col. 1, lines 15-40 of col. 3, and lines 1-5 of col. 4). Note that the step of "curing" the glue/adhesive is an inherent step within EP'695's method, since this step is a necessary step that one of ordinary skill in the art must carry out to ensure proper drying of the glue/adhesive and thus provide a more efficient bonding between the adhesively assembled tube sections.

EP'695 discloses all the claimed invention except for: 1) the step of hydroforming the tube section into a desired shape; and 2) each of the male and female tube sections comprises one of galvanized steel and aluminum.

Regarding 1), Ni et al. teach a method of hydroforming a tube section (10) wherein the tube section comprises a male tube section (12) having an end portion received within and overlapping an end portion of a female tube section (18). Note that the male and female tube sections are being joined together. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have included the step of hydroforming the tube sections, in a similar manner as taught in Ni et al., in order to form the tube sections into various and desirable shapes/sizes.

Regarding 2), Ni et al.'s method further teach that each of the male and female tube sections comprises one of steel and aluminum (see lines 23-30 of col. 3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have made the tube sections of EP'695 into one of steel and aluminum, since it is well known to use steel for its soundness and to use aluminum for its lightness. Note that most steel materials go under a galvanization process wherein the steel materials are coated with a rust-resistant coating.

For claims 2 and 3, note that EP'695 further discloses an inlet hole (13) and an exit hole (14) in the female tube section (8).

For claim 6, note that one of ordinary skill in the art would have known to inject the adhesive first before curing the adhesive, since it is necessary to carry out these steps in order to ensure proper drying of the glue/adhesive and thus provide a more efficient bonding between the adhesively assembled tube sections.

For claim 7, note that EP'695's exit hole (14) is aligned about 180 degrees from the inlet hole (13).

For claim 8, it would have been obvious to one of ordinary skill in the art at the time the invention was made to clean the tube sections prior to assemble the tube sections, since to do so would remove any dirt, oil, and/or unwanted particles from the tube sections and thus provide a clean and sound tube sections for further manufacturing processes.

For claims 9 and 10, note that EP'695's annular space comprises an inlet hole (13) and/or an exit hole (14) (see Figure 2).

For claim 11, note that EP'695 further includes the step of injecting glue/adhesive through each inlet hole into its corresponding annular space.

For claim 13, note that EP'695 further includes the step of providing an exit hole in the same tube section as the inlet hole, about 180 degrees from the inlet hole.

For claim 14, note that EP'695 further includes the step of injecting adhesive into the inlet hole until the adhesive begins to exit the annular space through the exit hole (see lines 1-5 of col. 4).

7. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over EP0707695B1 (hereinafter is referred to as EP'695) in view of Ni et al. (US 5,720,092) (hereinafter is referred to as EP'695/Ni et al.), and further in view of WO 00/22024 (hereinafter is referred to as WO'22024).

As described above, EP'695/Ni et al. disclose all of the claimed invention except for indicating that the adhesive comprises a two-part epoxy adhesive.

WO'22024 teaches that it is well known to join structural members together by using two-part epoxy adhesive (see page 1 of WO'22024's specification). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have joined the tube sections of EP'695/Ni et al. by using two-part epoxy adhesive, in a similar manner as taught in WO'22024, in order to promote a more efficient joining technique and thus reduce the overall producing cost.

8. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ni et al. (US 5,720,092) in view of EP0707695B1 (hereinafter is referred to as EP'695).

Ni et al. disclose a method of forming a composite frame structure (10) by arranging a plurality of metal frame components (12, 14, 16, 18) into a birdcage structure so as to define a plurality of joints (20) defined by overlapping portions of adjacent components, each of the joints comprising a circumferential space formed between the overlapping portions of the adjacent components, and hydroforming the birdcage structure into a desired shape (see Figures 3 and 4).

Ni et al. disclose all of the claimed invention except for indicating that frame components are joined together by adhesive and that adhesive is being injected through inlet hole and/or exit hole in the frame components.

EP'695 discloses a method of forming a tube section comprised of a male tube section (9) having end portion received within and overlapping end portion of a female tube (8) section by inserting glue/adhesive within an annular space (10) defined between the male and female tube sections (see Figure 2, lines 17-22 of col. 1, lines 15-40 of col. 3, and lines 1-5 of col. 4). Note that the step of "curing" the glue/adhesive is an inherent step within EP'695's method, since this step is a necessary step that one of ordinary skill in the art must carry out to ensure proper drying of the glue/adhesive and thus provide a more efficient bonding between the adhesively assembled tube sections. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have joined the frame components of Ni et al. by using

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glue/adhesive and that glue/adhesive is being injected through inlet hole and/or exit hole in the frame components, in a similar manner as taught in EP'695, in order to reduce the overall manufacturing cost since using glue/adhesive is cheaper than using a welder to provide the bond between the frame components.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure are cited on form PTO-892 encloses herewith.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Trinh T Nguyen whose telephone number is (703) 306-9082. The examiner can normally be reached on M-F (9:30 A.M to 6:00 P.M).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Jordan can be reached on (703) 306-4159. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7687 for regular communications and (703) 305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

ttn
August 10, 2003

